

REMARKS

The Pending Claims

With the entry of the above amendments, Claims 1-23 remain pending, with Claims 1, 2, and 14 being the pending independent claims. The amendments to the claims are of a formal nature and include no new matter.

The Rejections under 35 USC 112

Claim 1 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase “a bottom region”, with the Examiner suggesting the phrase “the bottom”. Applicants have amended Claim 1 in accordance with the Examiner’s suggested language.

Claim 2 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase “Standard Linear Ramp Hot Burst Grease Test”, the Office Action stating that the use of the word “Standard” indicating that the test is subject to change with time, and further that the phrase “at least 26 inches of water” is indefinite as it is not a unit of strength. In response, Applicants have amended Claim 2 to by deletion of the word “Standard”, and Applicants note that the Linear Ramp Hot Burst Grease Test is described at Page 6 lines 21-27 of their specification. Moreover, Claim 2 is amended to refer to “the sealed bag as having a burst strength” of at least 26 inches of water. Applicants note that the burst pressure which the bag can withstand is stated as being a measure of seal strength. See Page 6 lines 21-27.

Claims 4 and 10 are rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the word “seamless”, which the Office Action states is unclear. In response, Applicants note that Claim 4, which recites a side-seal bag, is amended by the deletion of the word “seamless”, as it is unnecessary as Claim 4 recites the bottom as being “folded”, which of course is

not seamed. However Claim 10, which recites an end-seal bag, continues to recite the word “seamless” because it is made from a seamless tubing, i.e., a tubing having no seals along its length because it has been formed via extrusion from an annular die. As such, the tubing is seamless. Applicants contend that this term is not indefinite, as those of skill in the art readily recognize the difference between a backseamed tubing (e.g., formed from a flat film which has been sealed to itself to form a seamed tubing) versus the seamless tubing recited in Claim 10 and illustrated in Figure 2 as bag film 16.

Claim 6 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase “an upper region”, which the Office Action states is unclear. In response, Applicants note that Claim 6 has been amended by the deletion of the phrase “an upper region” and the substitution therefor of the phrase “the bag has an uncovered top portion”. Applicants contend that Claim 6 as amended is clear for the same reasons that the Examiner suggested a similar change in Claim 1, which is similarly amended.

Claim 18 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase “annealed nickel chromium 80”, with the Examiner stating that this phrase will be assumed to mean any “nichrome wire”. Accordingly, Claim 18 is amended to recite simply “nichrome wire”, as those of skill in the art would recognize from the description of the “annealed nickel chromium 80” at Page 16 lines 11-15.

Finally, Claim 23 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase “an upper region, the Office Action stating that there is inadequate

antecedent basis for the phrase “the means for controlling....” Accordingly, this phrase has been amended to recite “...a means for controlling....”

The §102(b) Rejection of Claims 1-3, 5-12, and 23 as Anticipated by BRADY et al

In Paragraph 8 of the 1 August Office Action, Claims 1-3, 5-12, and 23 are rejected under 35 USC 102(b) as anticipated by WO 96/00688, to Brady et al (“BRADY et al”). More particularly, the Office Action states that BRADY et al discloses an end-seal patch bag comprising a tubular bag and a heat-shrinkable patch film which is adhered across the entire width of a first lay-flat side of the bag and which also has an overhang region, with the bag having a continuous seal across the entire width of the bag at the bottom of the bag, the seal being through the patch and the bag (page 19 lines 15-31), with the seal being the only seal across the bottom region of the bag (page 30 lines 34-35, page 31, lines 1-7; Figure 11).

In response, Applicants contend that BRADY et al does not anticipate either pending Claim 1 or pending Claim 2. As to Claim 1, Applicants point out that the Office Action refers to Page 19 lines 15-31 of BRADY et al as disclosing a seal through both the patch and the bag, and then refers to Page 30 lines 34-35, etc, of BRADY et al, as disclosing the seal as the only seal across the bottom of the bag. Applicants point out that Page 19 lines 15-31 of BRADY et al refers to a patch bag having a bottom seal across an uncovered portion of the bag, in combination with a “supplemental seal” which is through both the patch and the bag. See U.S. Patent No. 5,545,419, which is the issued patent disclosing the invention to which this portion of BRADY et al refers. Thus, Page 19 lines 15-31 of BRADY et al does not teach or suggest that the seal across the

bottom be the only seal across the bag, as recited in Applicants' Claim 1. In fact, it teaches the opposite, i.e., that there be a second seal, which is a supplemental seal, which is through both the patch and the bag. Moreover, page 30 lines 34 through page 31 line 7 of BRADY et al refers to the "laminated patch bag" of Figure 11. This patch bag cannot employ the supplemental seal set forth on Page 19 of BRADY et al, because the patch film in the laminated patch bag extends over the entire bag. As a result, the bottom seal would also have to be through the patch, which is not in accordance with Page 19 lines 15-31 of BRADY et al. These portions of BRADY et al are mutually exclusive of one another, and therefore cannot be combined. Accordingly, it is clear that Applicants' Claim 1 is not anticipated by BRADY et al.

Turning to Claim 2, Applicants direct attention, to Page 1, lines 25-32, as follows:

It has been discovered that a seal can be made through both the patches and the bag, the seal having a strength which is substantially equivalent to the strength of a seal through the bag alone, or even superior to the strength of a seal through the bag alone. In the past, a through-bag-and-patch seal strength of only about 16 to 20 inches of water was obtained, measured via a Standard Linear Ramped Hot Burst Grease Test, described below. However, using the apparatus and process which Applicants' have discovered, surprisingly a through-bag-and-patch seal strength of from at least about 24 up to at least about 48 inches of water has been achieved, using the same test for seal strength.

Applicants contend that BRADY et al contains no disclosure which would enable one of skill in the art to make a through-the-bag-and-patch seal having a strength high enough to allow the resulting bag to withstand a pressure of at least 26 inches of water in the Linear Ramped Hot Burst Grease Test, as recited in Applicants' Claim 2. As Applicants have stated in their specification (which is under oath as evidenced by their Declaration and Power of Attorney), previously such through-the-patch seals have only reached a seal strength of 16-20 inches of water under the Linear Ramped Hot

Burst Grease Test. However, Claim 2, and all claims depending therefrom, recite the sealed bag as having a burst strength of at least 26 inches of water in a Linear Ramp Hot Burst Grease Test. As this is not taught, suggested, or enabled by BRADY et al, Applicants contend that Claim 2, and all claims depending therefrom, are patentable over BRADY et al.

The Rejection of Claim 13 as Obvious over BRADY et al

In Paragraph 10 of the 1 August Office Action, Claim 13 is rejected under 35 USC 103(a) as obvious over BRADY et al. More particularly, the Office Action states that BRADY et al fails to disclose a seal width of 0.015 to 0.25 inch, but that BRADY et al discloses a bag in which the seal has a width of 13 to 17 inches, i.e., the width of the bag, and that the width of the seal would be readily determined through routine optimization by one of skill in the art.

In response, Applicants point out that Claim 13 is ultimately dependent upon Claim 2, and therefore that BRADY et al does not teach or suggest the invention of Claim 13 for at least the reasons set forth above in response to the §102(b) rejection of Claim 2. However, Applicants desire to set the record straight that Claim 4 recites the width of the seal itself, not the width of the bag as described in Paragraph 10 of the Office Action (the width of the bag corresponds to the length of the seal, rather than the width of the seal). Moreover, Applicants contend that there is no teaching or suggestion in BRADY et al which would lead one of skill in the art to believe that a seal having a width of at most a quarter of an inch could provide the recited strength as evidenced by the Linear Ramped Hot Burst Grease Test.

The Rejection of Claim 4 as Obvious over BRADY et al in view of HERRINGTON

In Paragraph 11 of the 1 August Office Action, Claim 4 is rejected under 35 USC 103(a) as obvious over BRADY et al in view of U.S. Patent No. 4,561,109, to Herrington ("HERRINGTON"). More particularly, the Office Action states that BRADY et al fails to disclose a bag having a folded bottom, but that HERRINGTON discloses such a bag.

In response, Applicants first point out that the side-seal bag of Figures 11 and 12 of BRADY et al has a folded bottom edge. Accordingly, HERRINGTON is not needed to provide this feature, as it is already present in BRADY et al. However, Applicants contend that Claim 4 is patentable over BRADY et al in view of HERRINGTON, for at least the same reason that Claim 2 is patentable over BRADY et al. Applicants again point out that BRADY et al does not teach or suggest or enable a through-the-patch seal having a strength high enough to produce a burst strength of at least 26 inches of water in the Linear Ramped Hot Burst Grease Test.

The Rejection of Claims 14-15, 17, and 19-22 as Obvious over BRADY et al in view of SAMSON

In Paragraph 12 of the 1 August Office Action, Claims 14-15, 17, and 19-22 are rejected under 35 USC 103(a) as obvious over BRADY et al in view of U.S. Patent No. 3,616,004, to Samson ("SAMSON"). More particularly, the Office Action states that BRADY et al discloses a process for making a patch bag by adhering first and second patch films to a lay-flat bag tubing, sealing the inside surface of the bag tubing to itself by applying heat to each of the outside patch surfaces, and cutting across the tubing. However, the Office Action then states that BRADY et al fails to disclose the use of first and second heating means which are in alignment with one another with the patches and bag tubing therebetween during sealing, following which the Office Action states that SAMSON teaches the use of first and second means for heating which are in alignment

with one another with the films therebetween during sealing, for the purpose of sealing films with strength and uniformity.

In response, Applicants contend that Claims 14-15, 17, and 19-22 are patentable over BRADY et al in view of SAMSON. A review of the various polymers in the bag film in BRADY et al shows that all of the polymers which could be involved in the seal of the bag film tubing to form the bag are ethylene-based polymers which do not have greatly differing melting points, i.e., EVA in the seal layer, followed by LLDPE and EBA in the thick puncture-resistant layer adjacent the seal layer. See TABLE II on Page 22 of BRADY et al. In contrast, SAMSON teaches the use of two aligned heated sealing jaws for the sealing of multilayer films having alternating layers of low and high melting point polymers, i.e., polymers having greatly differing melting points. SAMSON would not have taught or suggested to one of ordinary skill in the art to use two aligned individually heated sealing jaws for making a through-the-patches seal of the patch bag of BRADY et al, because the multilayer film from which the bag of BRADY et al is made does not have the alternating layers of polymers having greatly differing melting points. As a result, Applicant contends that independent Claim 14, and all claims depending therefrom, are patentable over BRADY et al in view of SAMSON.

Applicants further note with respect to Claims 19 and 20 that the “metal gauge” in SAMSON (col 2 lines 9-12, and Figure 1) is neither a means for shock absorption nor a resilient member, as metal is not resilient enough to provide shock absorption for impact with plastic film, which is obviously much softer than metal.

The Rejection of Claims 16 and 18 as Obvious over BRADY et al
in view of SAMSON and further in view of SHABRAM

In Paragraph 13 of the 1 August Office Action, Claims 16 and 18 are rejected under 35 USC 103(a) as obvious over BRADY et al in view of SAMSON, further in view of U.S. Patent No. 3,340,776, to Shabram ("SHABRAM"). More particularly, the Office Action relies upon BRADY et al and SAMSON as in the rejection above, but states that BRADY et al and SAMSON fail to disclose seal bars having convex surface and seal bars comprising nichrome. The Office Action then goes on to state that SHABRAM discloses the use of convex surfaces and nichrome wire as a heating element, to provide a seal bar of simplified construction. Finally, the Office Action concludes that it would have been obvious to have provided a convex surface for the sealing means in BRADY et al and SAMSON in order to make a seal bar having simplified construction.

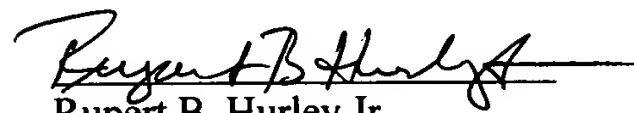
In response, Applicants contend that Claims 16 and 18 are patentable over BRADY et al in view of SAMSON and SHABRAM. As discussed above, one of ordinary skill would not have been motivated to use the pair of aligned, heated seal jaws disclosed by SAMSON to seal the multilayer bag film of BRADY et al, because the seal layer and the layer adjacent the seal layer do not have the low and high melting point relationship of the multilayer film being sealed in SAMSON. As such, there would not be any reason to use the two aligned heated sealing jaws of SAMSON. Thus, regardless of any teaching of nichrome wire and convex surface seal bar which may be present in SHABRAM, this combination of prior art would not have taught or suggested the process recited in Applicants' Claims 16 and 18.

Conclusion

Reconsideration of the patentability of the pending claims is respectfully requested, with a view towards allowance based on the amendments and remarks set forth above. Should there be

any questions or comments, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully Submitted,



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Appendix

Amendments to the Claims

1. (Once Amended) An end-seal patch bag comprising a heat-shrinkable bag comprising a tubular bag film, and a heat-shrinkable patch comprising a patch film, the patch being adhered to the bag, the patch extending across an entire width of a first lay-flat side of the tubular bag film, the patch bag having a seal across a bottom [r  gion] thereof, the seal being continuous across the entire width of the lay-flat bag film, the seal being through both the patch as well as through both lay-flat sides of the bag, the seal being the only seal across the bag.
2. (Once Amended) A patch bag comprising a heat-shrinkable bag comprising a tubular bag film, and a heat-shrinkable patch comprising a patch film, the patch being adhered to the bag, the patch bag having a seal which is through both the patch as well as through both lay-flat sides of the bag, the [seal having a] sealed bag having a burst strength of at least 26 inches of water in a [Standard] Linear Ramp Hot Burst Grease Test.
4. (Once Amended) The patch bag according to Claim 3, wherein the patch bag is a side-seal patch bag, and both the first patch and the second patch extend across an entire length of the bag, the patch bag having a first seal along a first edge of the bag and a second seal along a second edge of the bag, and a [seamless] folded bottom edge, the first and second seals being through the first patch, the second patch, and the bag film.

6. (Once Amended) The end-seal patch bag according to Claim 5, wherein the bag has an uncovered top portion. [an upper region of the tubular bag film is not covered by a patch.]

18. (Once Amended) The process according to Claim 17, wherein the first seal bar and the second seal bar each comprise [annealed nickel chromium 80] nichrome wire.

23. (Once Amended) The process according to Claim 22, wherein [the] a means for controlling the temperature constantly monitors and controls the voltage and current flowing through the first and second sealing bars, so as to constantly monitor and control the temperature of the first and second sealing bars at a pre-set maximum temperature during sealing.